Update on Newly Available Green Infrastructure Products

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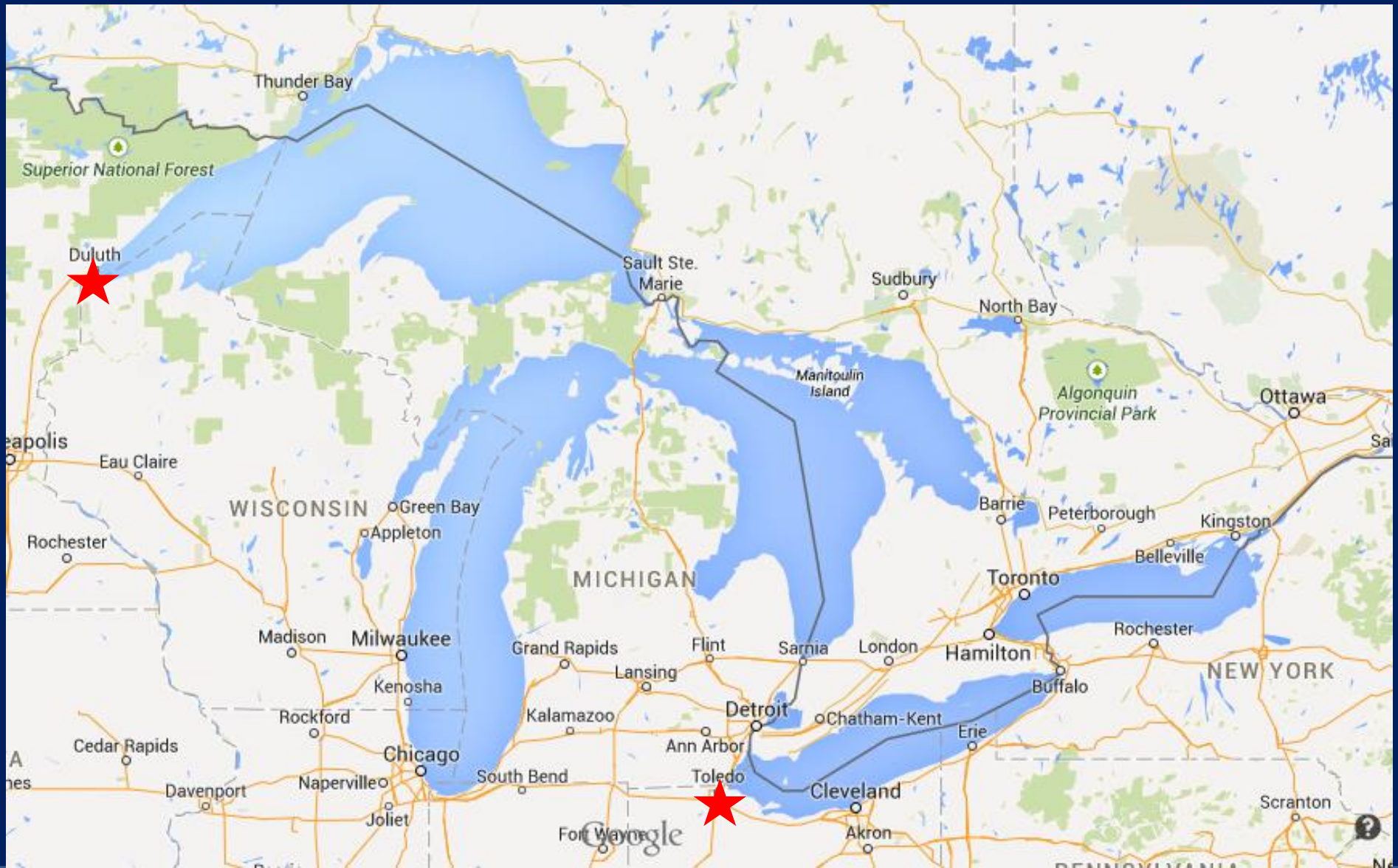
OFFICE FOR COASTAL MANAGEMENT
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Great Lakes Study Sites



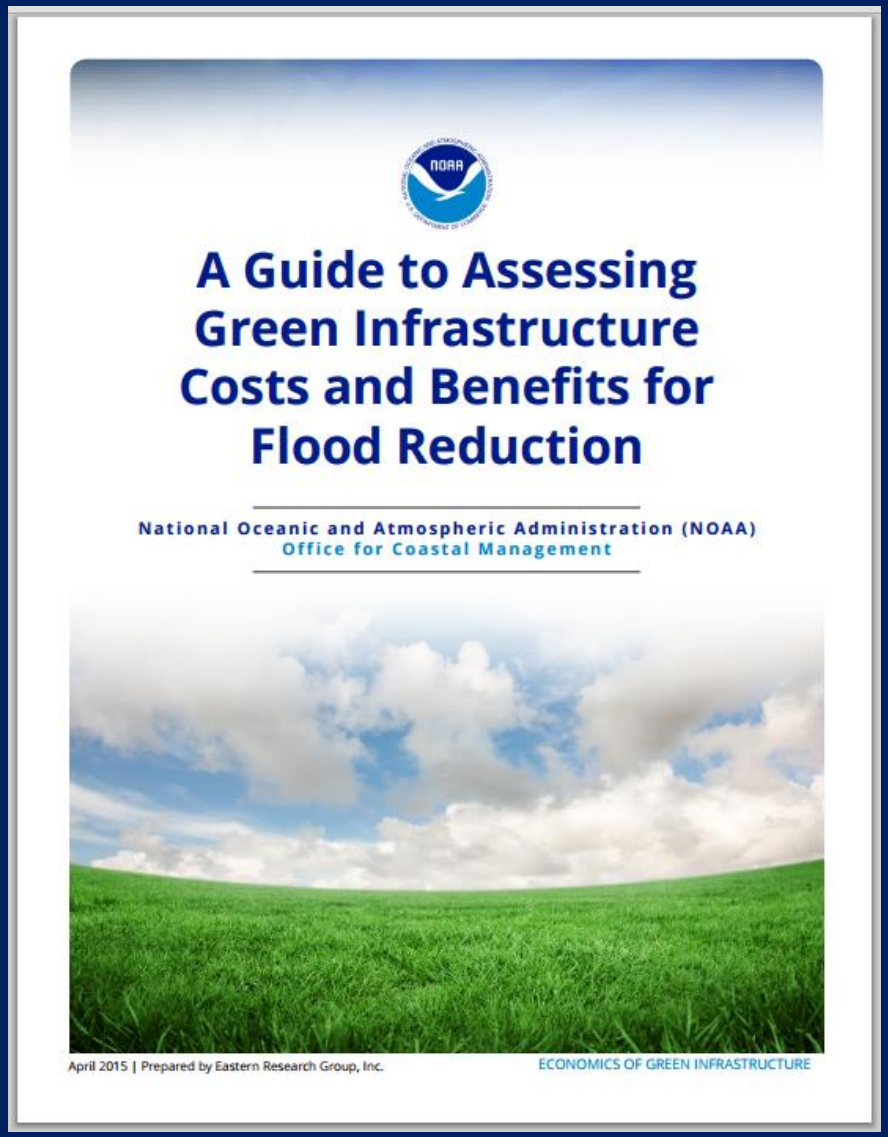
A Tale of Two Cities

Assessing Green Infrastructure Costs and Benefits in Toledo, Ohio and Duluth, Minnesota

- Project presentation was recorded on June 16, 2015, as part of Ohio State University's Changing Climate Webinar Series
- Presentation is accessible at *http://changingclimate.osu.edu/webinars/archives/2015-06-16/*
- Project team available to join a future monthly call for any additional questions and answers

Resulting Products

- Step-by-step process guide for communities



Economic Assessment of Green Infrastructure Strategies for Flood Reduction

www.coast.noaa.gov/digitalcoast/publications/gi-cost-benefit

Duluth

Toledo

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Assessment Framework

Step 1: Define flooding problem

Step 2: Assess flooding scenarios without green infrastructure

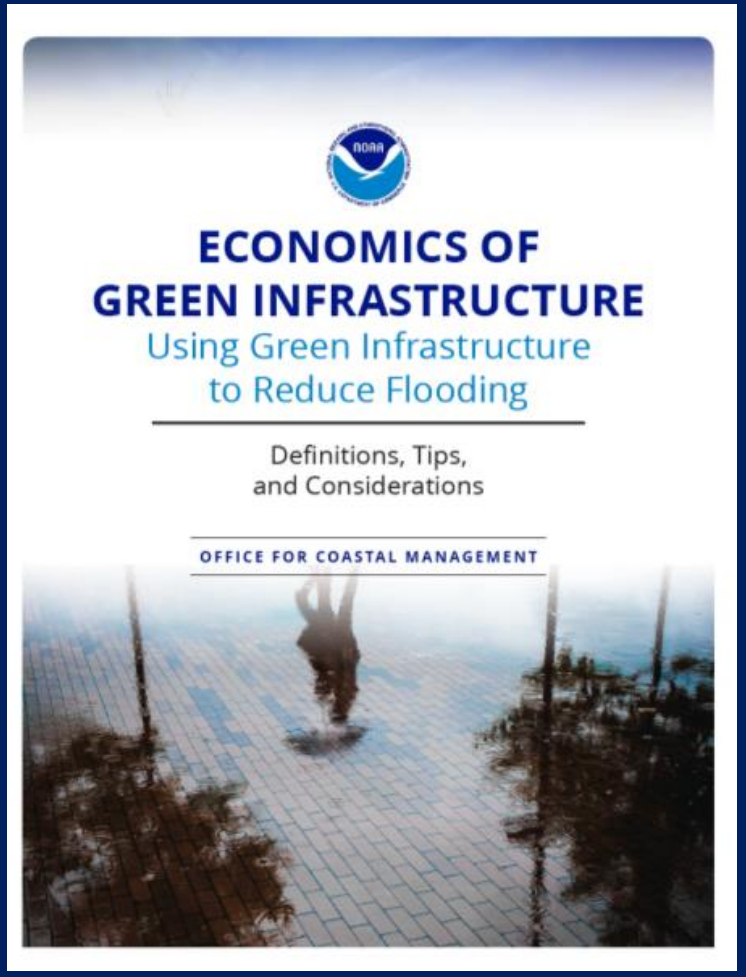
Step 3: Identify how flood reduction target can be met with green infrastructure

Step 4: Assess flooding scenarios with green infrastructure

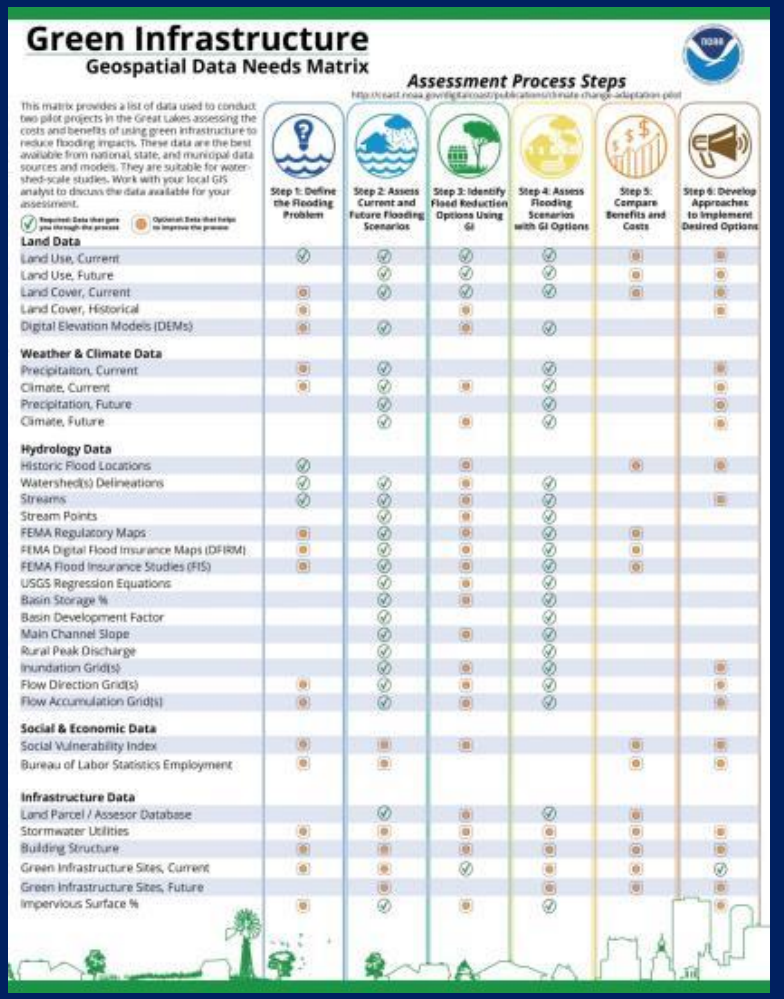
Step 5: Estimate costs and benefits

Step 6: Identify and communicate desired green infrastructure strategy

Companion Pieces



Green Infrastructure Options



Green Infrastructure
Geospatial Data Needs Matrix

Assessment Process Steps

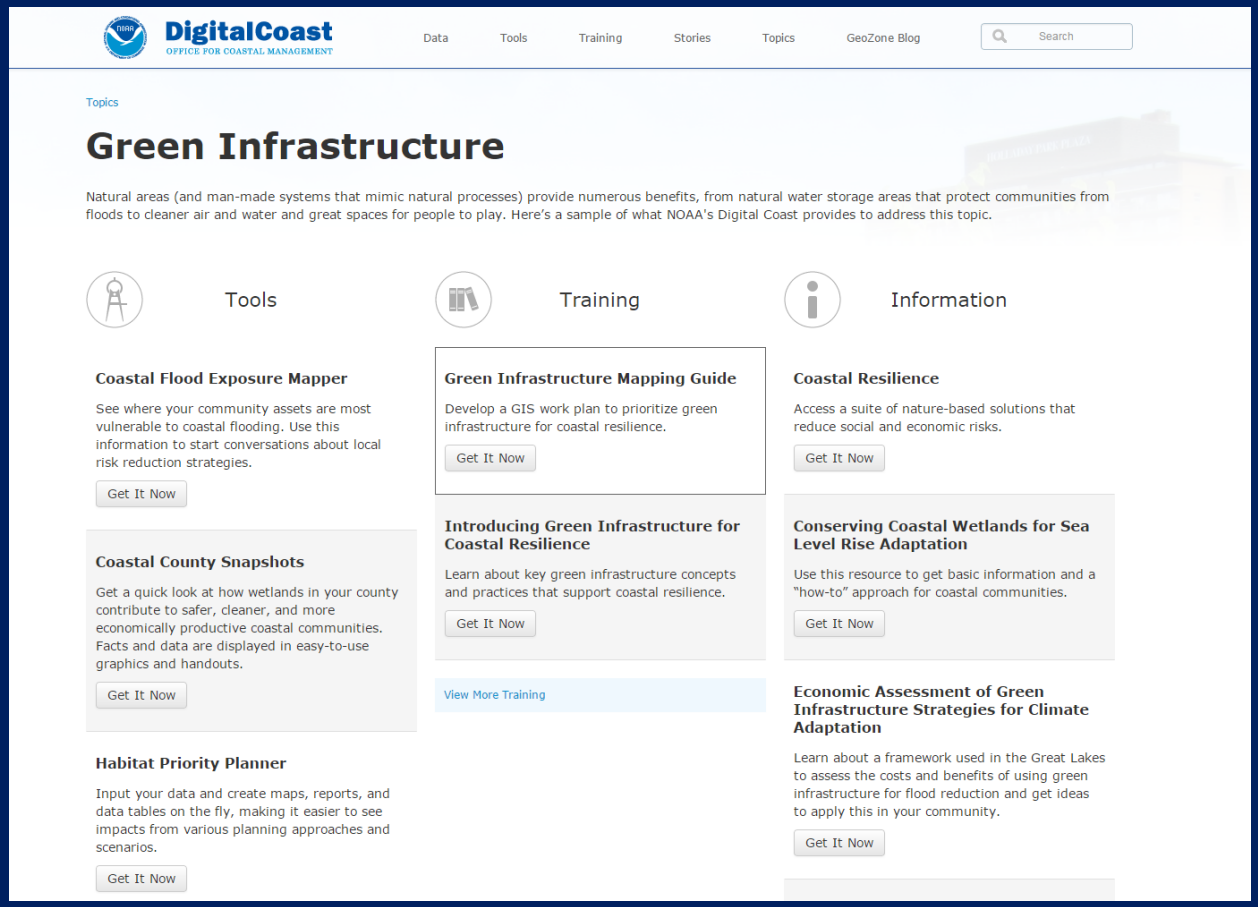
This matrix provides a list of data used to conduct two pilot projects in the Great Lakes assessing the costs and benefits of using green infrastructure to reduce flooding impacts. These data are the best available from national, state, and municipal data sources and models. They are suitable for watershed-scale studies. Work with your local GIS analyst to discuss the data available for your assessment.

✓ Required: Data that gets you through the process
● Optional: Data that helps to improve the process

	Step 1: Define the Flooding Problem	Step 2: Assess Current and Future Flooding Scenarios	Step 3: Identify Flood Reduction Options Using GI	Step 4: Assess Flooding Scenarios with GI Options	Step 5: Compare Benefits and Costs	Step 6: Develop Approaches to Implement Desired Options
Land Data						
Land Use, Current	✓	✓	✓	✓	●	●
Land Use, Future		✓	✓	✓	●	●
Land Cover, Current	●	✓	✓	✓	●	●
Land Cover, Historical	●		●			●
Digital Elevation Models (DEMs)	●	✓	●	✓		
Weather & Climate Data						
Precipitaiton, Current	●	✓		✓		●
Climate, Current	●	✓	●	✓		●
Precipitation, Future		✓		✓		●
Climate, Future		✓	●	✓		●
Hydrology Data						
Historic Flood Locations	✓		●		●	●
Watershed(s) Delineations	✓	✓	●	✓		
Streams	✓	✓	●	✓		●
Stream Points		✓	●	✓		
FEMA Regulatory Maps	●	✓	●	✓	●	
FEMA Digital Flood Insurance Maps (DFIRM)	●	✓	●	✓	●	
FEMA Flood Insurance Studies (FIS)	●	✓	●	✓	●	
USGS Regression Equations		✓	●	✓		
Basin Storage %		✓	●	✓		
Basin Development Factor		✓		✓		
Main Channel Slope		✓	●	✓		
Rural Peak Discharge		✓		✓		
Inundation Grid(s)		✓	●	✓		●
Flow Direction Grid(s)	●	✓	●	✓		●
Flow Accumulation Grid(s)	●	✓	●	✓		●
Social & Economic Data						
Social Vulnerability Index	●	●	●		●	●
Bureau of Labor Statistics Employment	●	●			●	●
Infrastructure Data						
Land Parcel / Assesor Database		✓	●	✓	●	
Stormwater Utilities	●	●	●	●	●	●
Building Structure	●	●	●	●	●	●
Green Infrastructure Sites, Current	●	●	✓	●	●	✓
Green Infrastructure Sites, Future		●		●	●	●
Impervious Surface %	●	✓	●	✓		●

Data Matrix

More Green Infrastructure Information



www.coast.noaa.gov/digitalcoast/topic/green-infrastructure

Great Lakes Coastal Resilience Planning Guide

www.greatlakesresilience.org

- Local stories
- Case studies
- Tools, data, and resources
- Events and funding
- People and organizations

For More Information

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coast.noaa.gov/digitalcoast/publications/climate-change-adaptation-pilot